

A NEW SPECIES OF *PACHYSEIUS* BERLESE, 1910 FROM CHINA (ACARI, MESOSTIGMATA, PACHYLAELAPIDAE)

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Abstract One new species of *Pachyseius* Berlese (Acari Mesostigmata Pachylaelapidae), *Pachyseius smalin ingi* sp. nov. is described from Liaoning and Jilin, China.

Key words Acari, Pachylaelapidae, *Pachyseius*, new species, China.

Introduction

The genus *Pachyseius* was erected by Berlese (1910) in the family Neoparasitidae with *Pachyseius humeralis* Berlese as the type species. Evans & Till (1979) transferred the genus to Pachylaelapidae. Karg (1993) placed species of *Pachyseius* in Macrochelidae, but now most authors place *Pachyseius* in Pachylaelapidae.

There are 16 known species in the genus, of them 13 (Wilhelm, 1935; Hyatt, 1956; Solomon, 1982; Nkolsky, 1982; Afifi & Nasr, 1984; Ishikawa, 1989; Moraza, 1993; Masan & Mahal, 2007; Masan, 2008) were described from different regions of the world and 3 (Yin *et al.*, 1986; Ma & Yin, 2000; Chen, Bei & Gao, 2009) from China.

In this paper, we describe one new species of *Pachyseius* from China. All measurements are given in microns (μm), of which female holotype's is given for the first and the paratypes' in range within bracket and male paratypes' in range. The nomenclature for idiosomal chaetotaxy follows Lindquist & Evans (1965).

Pachyseius smalin ingi sp. nov. (Figs 1-14)

Female. Idiosoma broad oval, length 745 (740-770), width 527 (525-567). Dorsal shield complete, reticulation and provided with 30 pairs of setae; setae r3 knife-like and the other setae smooth. All dorsal pores normally formed; j: 42 (40-45), Js: 88 (83-89).

Sternal shield length 152 (147-162), width 128 (125-140), reticulated and with 3 pairs of simple setae and 2 pairs of pores; anterior margin strong sclerotized; St: 58 (56-60), St: 44 (42-47), St: 36 (31-38), with 1 pair of horn-like projections in front of St; setae posterior margin flat reaching to the middle of coxae III.

Metasternal shields nearly circular with 1 pair of simple setae and 1 pair of pores. Genital shield length 162 (160-170), width 97 (95-100), ax-like at the posterior part with 1 pair of simple setae; M-like band before genital setae; 1 pair of pores off genital shield. Ventrianal shield length 260 (255-284), width 312 (310-324), widest at 1/3 of anterior part, reticulated and subtriangular; posterior margin with 1 pair of pores; 4 pairs of preanal setae and 3 circumanal setae. Two pairs of platelets form 1 row between genital and ventrianal shield and 1 pair of slender platelets between coxa IV and ventrianal shield. One pair of metapodal shields rod-like; 14 pairs of setae on soft cuticle; 7 pairs of them knife-like on posterior margin; 2 pairs of pores between metapodal shields and ventrianal shield. Peritrematal shields developed with 1 pair of lyriform pores out of coxa II; peritreme extending anteriorly to the base of a setae. Tritostomal base length 40, width 12. Laciniae bifid with a few thorns.

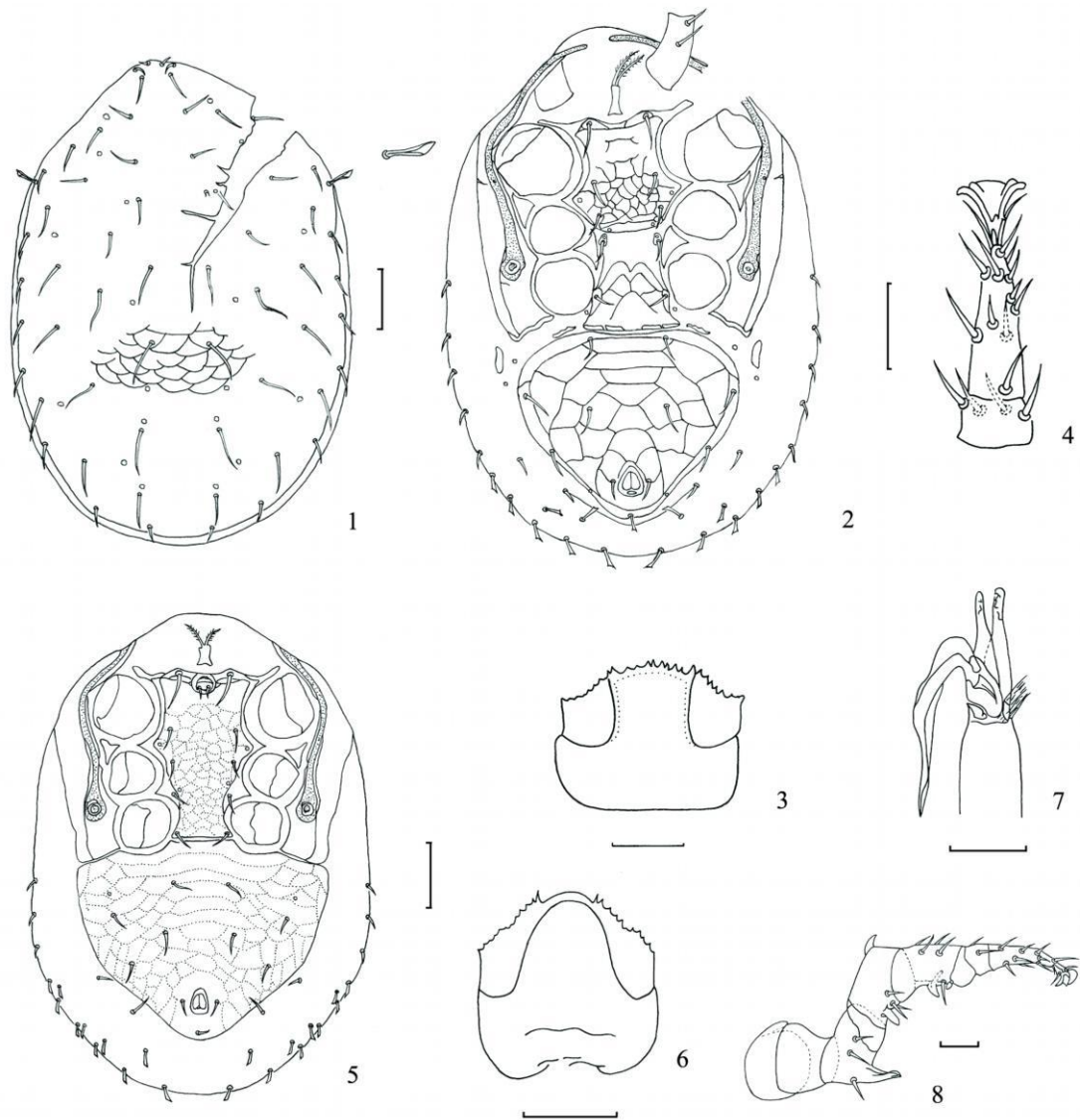
Tectum crown-like; anterior margin with a few denticles; divided into obvious 3 parts by 2 protuberant curved ridges.

Legs normal, shorter than idiosoma. Tarsi with ambulacrum and 2 claws; tarsus II without spines at the apical part. Typical chaetotaxy as follows: coxae I-IV: 2, 2, 2, 1; trochanters I-IV: 6, 5, 5, 5; femurs I-IV: 13 (2-5/4-2), 11 (2-5/3-1), 6 (1-3/1-1), 6 (1-3/1-1); genua I-IV: 12 (2-5/3-2), 11 (2-5/2-2), 8 (2-4/1-1), 8 (2-4/1-1); tibiae I-IV: 12 (2-5/3-2), 10 (2-4/2-2), 7 (1-3/2-1), 7 (1-3/2-1); tarsi II-IV: 18 (3-7/5-3), 18 (3-7/5-3), 18 (3-7/5-3). The variations in the new species occur in the chaetotaxy of tarsus II with 17 setae (3-6/5-3).

Male. Idiosoma length 719-732, width 507-526. Dorsal chaetotaxy and ornamentation similar to those of female.

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Figs 1-8 *Padyseius malinigi* sp. nov. 1-4. ♀. 5-8. ♂. 1. Dorsum. 2. Venter. 3. Tectum. 4. Tarsus II. 5. Venter. 6. Tectum. 7. Chelicera. 8. Leg II.

Stemogenital shield length 328-343, reticulated with 5 pairs of simple setae and 2 pairs of pores; 1 pair of horn-like projections in front of St; and heavily sclerotized genital opening located at anterior margin of stemogenital shield. Ventrianal shield reticulated, length 284-296, width 397-416, with 1 pair of pores and 4 pairs of preanal setae except 3 circumanal setae; 15 pairs of simple setae on soft cuticle. Peritrematal shield and tritostemum similar to those of female.

Tectum with elongate median extension; anterior margin velvet; lateral margins dentate. Fixed digit of chelicera with 3 teeth; movable digit with 2 teeth; spermatodactyl long and band-like.

Leg II strong; femur II with 1 large apophysis; anterior margin with 1 horn-like apophysis; posterior margin with 1 finger-like apophysis in genu II; tibia II with 2 apophyses at the apical part; tarsus II

without spines.

Holotype ♀, from soil, Qianshan Mountain (41° 05' N, 123° E), Anshan City, Liaoning Province, Sep. 2002, coll. SHI Cheng-Min and GU Li-Qiang. Paratypes: 1 ♀, Changbai Mountain, Jilin Province, Sep. 1986, coll. YIN Sui-Gong and BEI Na-Xin; 1 ♂, Longwei Lake, Shenyang City, Liaoning Province, Sep. 2002, coll. SHI Cheng-Min; 3 ♀♀, 5 ♂♂, Qianshan Mountain, Anshan City, Liaoning Province, Sep. 2002, coll. SHI Cheng-Min and GU Li-Qiang; 1 ♂, Fenghuang Mountain, Fengcheng City, Liaoning Province, Oct. 2002, coll. SHI Cheng-Min and GU Li-Qiang; 1 ♀, Tanghe Reservoir, Liaoyang City, Liaoning Province, May 2006, coll. ZHAO Ying-Yue; 6 ♀♀, 1 ♂, Laotudingzi Natural Preserve, Huanren County, Benxi City, Liaoning Province,

Sep 2006 coll CHEN Wan-Peng and ZHANG Heng-Ming 1 ♀, Baishilazi Natural Preserve Kuandian County, Dandong City Liaoning Province
 Sep 2008 coll CHEN Wan-Peng ZHOU Xue and LI Han-Song The type specimens are deposited in the Department of Entomology College of Plant Protection Shenyang Agricultural University in Liaoning Province, China

Etymology. The new species is named in honour of

Mr MA Li-Ming a famous acarologist in China

Remarks The new species is similar to *Pachyseius sinicus* Yin, Lv et Lan, 1986 but differs from the latter in following aspects in the female of the new species dorsal setae r3 and marginal setae situated on posterior lateral cuticle spatulate; ventrianal shield wide and subcordate; peritrematal shield posteriorly truncate and idiosoma 740-770 µm in length; genital shield with



Figs 9-14 *Pachyseius malinlingi* sp. nov. 9-10 ♀. 11-14 ♂. 9, 11. Venter 12. Tectum. 13. Chelicera 10, 14. Leg II.

M-like band before genital setae; tarsus II without spines at the apical part; tectum crown-like, anterior margin expanded. In the female of the latter dorsal setae r3 and marginal setae situated on posterior lateral cuticle simple and needle-like; ventrianal shield narrow and subtriangular to tongue-like; peritrematal shield posteriorly rounded; idiosoma 640-650 μm in length, without M-like band before genital setae; tarsus II with 2 spines at the apical part; tectum tongue-like; anterior margin sharp.

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中国厚绥螨属一新种（蜱螨亚纲，中气门亚目，厚厉螨科）

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摘要 记述厚绥螨属1新种，马氏厚绥螨 *Pachyseius malinigi* sp. nov., 新种与中国厚绥螨 *Pachyseius sinicus* Yin, Lv et Lan, 1986近似，但可从以下特征区别：新种背毛 r3和腹部膜质区后侧缘刚毛竹片状，腹肛板宽，心脏形，气门板后缘平截，体长 740~770 μm，生殖板具 M 形条纹，足 II 附节末端无棘，头盖冠状，前端宽大；而后者背毛 r3和腹部膜质区后侧缘刚毛简单刚毛状，腹肛板窄，三角形至舌形，气门板后缘圆滑，体长 640~650 μm，生殖板不具 M 形条纹，足 II 附节末端具 2 棘，头盖舌形，前端尖细。

正模♀，辽宁省鞍山市千山风景区土壤，2002-09-09 石承民，顾丽婧采；副模 1♀，吉林省长白山自然保护区土壤，1986-09 殷绥公，贝纳新采；1♂，辽宁省沈阳市龙尾

关键词 蜱螨亚纲，厚厉螨科，厚绥螨属，新种，中国。
中图分类号 Q959.226

湖土壤，2002-09-06 石承民采；3♀♀，5♂♂，辽宁省鞍山市千山风景区土壤，2002-09-09 石承民，顾丽婧采；1♂，辽宁省凤城市凤凰山风景区土壤，2002-10-16 石承民，顾丽婧采；1♀，辽宁省辽阳市汤河水库土壤，2006-05-03 赵盈月采；6♀♀，1♂，辽宁省本溪市桓仁县老秃顶子自然保护区土壤，2006-09 陈万鹏，张恒明采；1♀，辽宁省丹东市宽甸县白石砬子自然保护区土壤，2008-09-04 陈万鹏，周雪，李寒松采。模式标本保存于辽宁省沈阳农业大学植物保护学院。

词源：新种以我国蜱螨学家马立名先生的名字命名，以表达对他在蜱螨学研究中做出贡献的敬意。

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